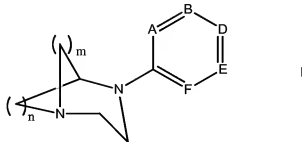


Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) A compound of formula I



wherein:

A = CR¹ or N,

B = CR² or N,

D = CR³ or N,

E = CR⁴ or N and

F = CR⁵ or N;

and the maximum number of nitrogen atoms amongst A, B, D, E, and F is two;

~~where m = 1-3 and n = 1-3~~ where m = 1 and n = 2;

~~and excluding all compounds where m = n = 2;~~

where each R¹, R², R³, R⁴ and R⁵ is independently selected from F, Cl, Br, I, nitro, cyano, CF₃, -NR⁶R⁷, -NR⁶C(=O)R⁷, -NR⁶C(=O)NR⁷R⁸, -NR⁶C(=O)OR⁷, -OR⁶, -OC(=O)R⁶, -OC(=O)OR⁶, -OC(=O)NR⁶R⁷, -OC(=O)SR⁶, -C(=O)OR⁶, -C(=O)R⁶, -C(=O)NR⁶R⁷, -SR⁶, -S(=O)R⁶, and a substituent from the definition of R⁶;

each R⁶, R⁷, and R⁸ is independently selected from H, straight chain or branched (C₁-C₈)alkyl, straight chain or branched (C₂-C₈)alkenyl, straight chain or branched (C₂-C₈)alkynyl, (C₃-C₈)cycloalkyl, (C₄-C₈)cycloalkenyl, 3-8 membered heterocycloalkyl, (C₅-C₁₁)bicycloalkyl, (C₇-C₁₁)bicycloalkenyl, 5-11 membered heterobicycloalkyl, 5-11 membered heterobicycloalkenyl, (C₆-C₁₁) aryl, and 5-12 membered heteroaryl; wherein each R⁶, R⁷, and R⁸ is optionally substituted with from one to six substituents, independently selected from F, Cl, Br, I, nitro, cyano, CF₃, -NR⁹R¹⁰, -NR⁹C(=O)R¹⁰, -NR⁹C(=O)NR¹⁰R¹¹, -NR⁹C(=O)OR¹⁰, -NR⁹S(=O)₂R¹⁰, -NR⁹S(=O)₂NR¹⁰R¹¹, -OR⁹, -OC(=O)R⁹, -OC(=O)OR⁹,

$-\text{OC}(=\text{O})\text{NR}^9\text{R}^{10}$, $-\text{OC}(=\text{O})\text{SR}^9$, $-\text{C}(=\text{O})\text{OR}^9$, $-\text{C}(=\text{O})\text{R}^9$, $-\text{C}(=\text{O})\text{NR}^9\text{R}^{10}$, $-\text{SR}^9$, $-\text{S}(=\text{O})\text{R}^9$,
 $-\text{S}(=\text{O})_2\text{R}^9$, $-\text{S}(=\text{O})_2\text{NR}^9\text{R}^{10}$ and R^9 ;

or R^1 and R^2 , or R^2 and R^3 , or R^3 and R^4 , or R^4 and R^5 , may form another 6-membered aromatic or heteroaromatic ring sharing A and B, or B and D, or D and E, or E and F, respectively, and may be optionally substituted with from one to four substituents independently selected from the group of radicals set forth in the definition of R^6 , R^7 and R^8 above;

each R^9 , R^{10} and R^{11} is independently selected from H, straight chain or branched (C_1 - C_8)alkyl, straight chain or branched (C_2 - C_8)alkenyl, straight chain or branched (C_2 - C_8)alkynyl, (C_3 - C_8)cycloalkyl, (C_4 - C_8)cycloalkenyl, 3-8 membered heterocycloalkyl, (C_5 - C_{11})bicycloalkyl, (C_7 - C_{11})bicycloalkenyl, 5-11 membered heterobicycloalkyl, (5-11 membered) heterobicycloalkenyl, (C_6 - C_{11}) aryl or 5-12 membered heteroaryl; wherein each R^9 , R^{10} and R^{11} is optionally substituted with from one to six substituents independently selected from F, Cl, Br, I, nitro, cyano, CF_3 , $-\text{NR}^{12}\text{R}^{13}$, $-\text{NR}^{12}\text{C}(=\text{O})\text{R}^{13}$, $-\text{NR}^{12}\text{C}(=\text{O})\text{NR}^{13}\text{R}^{14}$, $-\text{NR}^{12}\text{C}(=\text{O})\text{OR}^{13}$, $-\text{NR}^{12}\text{S}(=\text{O})_2\text{R}^{13}$, $-\text{NR}^{12}\text{S}(=\text{O})_2\text{NR}^{13}\text{R}^{14}$, $-\text{OR}^{12}$, $-\text{OC}(=\text{O})\text{R}^{12}$, $-\text{OC}(=\text{O})\text{OR}^{12}$, $-\text{OC}(=\text{O})\text{NR}^{12}\text{R}^{13}$, $-\text{OC}(=\text{O})\text{SR}^{12}$, $-\text{C}(=\text{O})\text{OR}^{12}$, $-\text{C}(=\text{O})\text{R}^{12}$, $-\text{C}(=\text{O})\text{NR}^{12}\text{R}^{13}$, $-\text{SR}^{12}$, $-\text{S}(=\text{O})\text{R}^{12}$, $-\text{S}(=\text{O})_2\text{R}^{12}$, $-\text{S}(=\text{O})_2\text{NR}^{12}\text{R}^{13}$ and R^{12} ;

each R^{12} , R^{13} , and R^{14} is independently selected from H, straight chain or branched (C_1 - C_8)alkyl, straight chain or branched (C_2 - C_8)alkenyl, straight chain or branched (C_2 - C_8)alkynyl, (C_3 - C_8)cycloalkyl, (C_4 - C_8)cycloalkenyl, 3-8 membered heterocycloalkyl, (C_5 - C_{11})bicycloalkyl, (C_7 - C_{11})bicycloalkenyl, 5-11 membered heterobicycloalkyl, 5-11 membered heterobicycloalkenyl, (C_6 - C_{11}) aryl and (5-12 membered) heteroaryl;

or an enantiomeric, diastereomeric, or tautomeric isomer thereof or a and pharmaceutically acceptable salt thereof.

Claim 2. (Currently amended) A compound according to claim 1 wherein one or two of A, B, D or E is N ; or a pharmaceutically acceptable salt thereof.

Claim 3. (Currently amended) A compound according to claim 1 wherein A and B are both N ; or a pharmaceutically acceptable salt thereof.

Claim 4. (Currently amended) A compound according to claim 1 wherein A and E are both N ; or a pharmaceutically acceptable salt thereof.

Claim 5. (Currently amended) A compound according to claim 1 wherein B and E are both N; or a pharmaceutically acceptable salt thereof.

Claim 6. (Currently amended) A compound according to claim 1 wherein one of A, B or E is N; or a pharmaceutically acceptable salt thereof.

Claim 7. (Currently amended) A compound according to claim 1 wherein one of A or B is N; or a pharmaceutically acceptable salt thereof.

Claim 8. (Currently amended) A compound according to claim 1 wherein each R¹, R², R³, R⁴ and R⁵ is independently selected from H, halo, (C₁-C₆)alkyl, (C₁-C₆)alkoxy, (C₁-C₆)fluoroalkyl, cyano, (C₁-C₆)alkoxycarbonyl; phenyl substituted or unsubstituted with halo, (C₁-C₆)alkyl, (C₁-C₆)alkoxy, (C₁-C₆)fluoroalkyl; and heteroaryl; or where any one of the R¹ and R², or R² and R³, or R³ and R⁴, or R⁴ and R⁵ pairs located on adjacent carbon atoms join to form an unsaturated (C₄)alkylene bridge; or a pharmaceutically acceptable salt thereof.

Claims 9. to 13 (Canceled)

Claim 14. (Currently amended) A compound according to claim 1 selected from the group consisting of:

- 4-(5-Bromo-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- 4-(5-Phenyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- 4-Pyridin-2-yl-1,4-diaza-bicyclo[3.2.1]octane;
- 4-Pyridin-3-yl-1,4-diaza-bicyclo[3.2.1]octane;
- 4-Pyridin-4-yl-1,4-diaza-bicyclo[3.2.1]octane;
- 4-(5-Phenyl-pyridazin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- 4-(5-Bromo-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- 4-(6-Phenyl-pyridazin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- 4-Pyrazin-2-yl-1,4-diaza-bicyclo[3.2.1]octane;
- 4-Pyrimidin-5-yl-1,4-diaza-bicyclo[3.2.1]octane;
- 4-(5-Chloro-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- 4-[5-(3-Trifluoromethyl-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- 4-(3-Bromo-phenyl)-1,4-diaza-bicyclo[3.2.1]octane;
- 5-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-nicotinonitrile;
- 4-(5-Trifluoromethyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- 4-[5-(2-Trifluoromethyl-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;

4-[5-(4-Trifluoromethyl-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(2-Fluoro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(4-Fluoro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
3-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-quinoline;
4-(3-Trifluoromethyl-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
4-(6-Methoxy-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(2-Methoxy-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(3-Methoxy-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-(5-o-Tolyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
5-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-nicotinic acid ethyl ester;
4-(5-Chloro-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
4-(6-Methyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(3-Trifluoromethyl-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(4-Chloro-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-(5-o-Tolyl-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(3-Chloro-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(3-Fluoro-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(4-Chloro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(2,4-Dichloro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(3-Chloro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-(5-p-Tolyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
4-[5-(4-Methoxy-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
4-(5-Methoxy-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
5-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-[3,4']bipyridinyl; and
4-(2-Methyl-5-trifluoromethyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane; or a pharmaceutically acceptable salt thereof.

Claim 15. (Currently amended) A compound according to claim 1 selected from the group consisting of:

- (+)-4-(5-Bromo-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(5-Phenyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-Pyridin-2-yl-1,4-diaza-bicyclo[3.2.1]octane;

- (+)-4-Pyridin-3-yl-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-Pyridin-4-yl-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(5-Phenyl-pyridazin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(5-Bromo-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(6-Phenyl-pyridazin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-Pyrazin-2-yl-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-Pyrimidin-5-yl-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(5-Chloro-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(3-Trifluoromethyl-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(3-Bromo-phenyl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-5-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-nicotinonitrile;
- (+)-4-(5-Trifluoromethyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(2-Trifluoromethyl-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(4-Trifluoromethyl-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(2-Fluoro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(4-Fluoro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-3-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-quinoline;
- (+)-4-(3-Trifluoromethyl-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(6-Methoxy-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(2-Methoxy-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(3-Methoxy-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(5-o-Tolyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-5-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-nicotinic acid ethyl ester;
- (+)-4-(5-Chloro-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(6-Methyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(3-Trifluoromethyl-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(4-Chloro-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-(5-o-Tolyl-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(3-Chloro-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(3-Fluoro-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
- (+)-4-[5-(4-Chloro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;

(+)-4-[5-(2,4-Dichloro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(+)-4-[5-(3-Chloro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(+)-4-(5-p-Tolyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(+)-4-[5-(4-Methoxy-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(+)-4-(5-Methoxy-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(+)-5-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-[3,4]bipyridinyl; and
(+)-4-(2-Methyl-5-trifluoromethyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane; or a pharmaceutically acceptable salt thereof.

Claim 16. (Currently amended) A compound according to claim 1 selected from the group consisting of:

(-)-4-(5-Bromo-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(5-Phenyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-Pyridin-2-yl-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-Pyridin-3-yl-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-Pyridin-4-yl-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(5-Phenyl-pyridazin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(5-Bromo-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(6-Phenyl-pyridazin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-Pyrazin-2-yl-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-Pyrimidin-5-yl-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(5-Chloro-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(3-Trifluoromethyl-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(3-Bromo-phenyl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-5-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-nicotinonitrile;
(-)-4-(5-Trifluoromethyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(2-Trifluoromethyl-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(4-Trifluoromethyl-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(2-Fluoro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(4-Fluoro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-3-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-quinoline;
(-)-4-(3-Trifluoromethyl-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;

(-)-4-(6-Methoxy-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(2-Methoxy-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(3-Methoxy-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(5-o-Tolyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-5-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-nicotinic acid ethyl ester;
(-)-4-(5-Chloro-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(6-Methyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(3-Trifluoromethyl-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(4-Chloro-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(5-o-Tolyl-pyridin-2-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(3-Chloro-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(3-Fluoro-phenyl)-pyridin-2-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(4-Chloro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(2,4-Dichloro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(3-Chloro-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(5-p-Tolyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-[5-(4-Methoxy-phenyl)-pyridin-3-yl]-1,4-diaza-bicyclo[3.2.1]octane;
(-)-4-(5-Methoxy-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane;
(-)-5-(1,4-Diaza-bicyclo[3.2.1]oct-4-yl)-[3,4']bipyridinyl; and
(-)-4-(2-Methyl-5-trifluoromethyl-pyridin-3-yl)-1,4-diaza-bicyclo[3.2.1]octane; or a pharmaceutically acceptable salt thereof.

Claims 17. to 30. (Canceled)

Claim 31. (Currently amended) A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 1 or a pharmaceutically acceptable salt thereof and pharmaceutically acceptable carrier.

Claim 32. (Canceled)